MULTI-TASKING TURNING CENTER

PUMA SMX2600S / 3100S





1. GENERAL SPECIFICATION

	ITEM		UNIT		ICATION	SF	LECTION	
			0	PUMA SMX2600S	PUMA SMX3100S		LEGIION	
CAPACITY	SWING OVER BED		mm	66	60			
S	SWING OVER SADDLE		mm	66	60			
N	MAX. MACHINING DIAMETER		mm	66	60			
F	RECOMMENDED TURNING DIAMET	ER	mm	255	305			
	MAX. TURNING LENGTH		mm	1,5	40			
	MAX. ALLOWABLE WORKPIECE WEIGHT (INCLUDED	CHUCK WORK	kg	210	390			
	CHUCK)	SHAFT WORK	kg	900	1,400			
E	BAR WORKING DIAMETER		mm	81	102			
TRAVEL X	(1-AXIS		mm	63	30			
Z	Z1-AXIS		mm	1,5	85			
Y	/-AXIS		mm	300(±150)			
A	-AXIS		mm	1,6	05			
- B	B-AXIS			240(±120)			
C	C1,C2-AXIS		deg	36	60			
ACCURACY F	POSITIONING	X-AXIS	mm	0.	01			
		Y-AXIS	mm	0.0				
		Z-AXIS	mm	0.0				
		B-AXIS	deg	0.0				
		C1-AXIS	deg	0.00		$\frac{1}{1}$ D	EFAULT	
-		C2-AXIS	deg	0.00		1 -		
	REPEATABILITY	X-AXIS	mm		.002			
		Y-AXIS	mm		.003			
		Z-AXIS	mm		.003			
		B-AXIS	deg		.003			
		C1-AXIS			.003			
			deg			_		
T.	FNOTI	C2-AXIS	deg		.003			
MACHINE	LENGTH		mm	4,9				
DIMENSION	WIDTH		mm	3,0		_		
	HEIGHT		mm	2,7	T	4		
MACHINE WEIGHT (kg	16,200	16,700	4		
	R TO SPINDLE CENTER		mm	1,2				
BASE STRUCTURE -	BED SLANT ANGLE		deg)			
	GUIDEWAY TYPE		-	`	OLLER TYPE)	_		
	CONTROL POWER		-		20V / 60Hz			
F	REQUIRED POWER CAPACITY		kVA	89.91	94.71			
c	COMPRESSED AIR SUPPLY	PRESSURE	Мра	0.				
		CONSUMPTION ⁽²⁾	L/min	80	00		T	
MACHINE COLOR			-	MT NEW DARK MT NEW LIGH MT NEW BLUE MT MIDDLE GRA	TONE COLOR ((2.6PB 3.0/0.5) T (8.8G 8.2/0.1) ((5.8PB 4.3/5.4) (Y (1.4RP 4.8/0.1)	STD.	SELECTIV	
CNC CONTROL			-	FS-31iB	FS-31iB	STD.	SELECTIV	
				FS-31iB5	FS-31iB5	OPT.		

⁽¹⁾ The machine weight is measured with standard accessories and features fitted.

⁽²⁾ Compressed air consumption is measured in standard specification. The actual value may differ from the specified here, depending on the optional features and peripheral equipment. Please contact Doosan or your regional manager.

2. LEFT SPINDLE

	ITEM		LINUT	SPECIFICATION		CELECTION
	ITEM		UNIT	PUMA SMX2600S	PUMA SMX3100S	SELECTION
LEFT SPINDLE	DRIVE MECHANISM		-	BUILT-IN SPI	NDLE MOTOR	
	STANDARD CHUCK SIZE		mm	255(10")	305(12")	
	SPINDLE NOSE	SPINDLE NOSE		A2-8	A2-11	
	SPINDLE BEARING DIAMETER (FRONT)		mm	130	160	
	SPINDLE THROUGH HOLE DIAMETER		mm	91	115	
	BORE OF DRAW TUBE		mm	82	103	
	MOTOR POWER (30min/CONT.)		kW	26/22	30/25	
	SPINDLE SPEED	SPINDLE SPEED		4,000	3,000	DEFAULT
	FULL POWER RANGE	LOW WINDING	r/min	300~800	238~500	
		HIGH WINDING	r/min	800~4000	500~1600	
	GEAR RATIO	,		1:1		
	MAX. SPINDLE TORQUE FOR	TURNING	Nm	700	1,203	
	C-AXIS CONTOURING TORQUE		Nm	700	1,203	
	C-AXIS BRAKING TORQUE		Nm	2,788	3,016	
	C-AXIS MINIMUM INDEXING IN	NCREMENT	deg.	0.0	001	

3. RIGHT SPINDLE

	1774			SPECIF	ICATION	OF! FOTION
	ITEM		UNIT	PUMA SMX2600S	PUMA SMX3100S	SELECTION
RIGHT SPINDLE	DRIVE MECHANISM		-	BUILT-IN SPINDLE MOTOR		
	STANDARD CHUCK SIZE		mm	255	(10")	
	SPINDLE NOSE		ASA	A2	2-8	
	SPINDLE BEARING DIAMETER	SPINDLE BEARING DIAMETER (FRONT)		1;	30	
	SPINDLE THROUGH HOLE DIAMETER		mm	91		
	BORE OF DRAW TUBE		mm	8	32	
	MOTOR POWER (30min/CONT.)		kW	26/22		DEFAULT
	SPINDLE SPEED		r/min	4,000		
	FULL POWER RANGE	LOW WINDING	r/min	300-	~800	
		HIGH WINDING	r/min	800~	4,000	
	GEAR RATIO			1	:1	
	MAX. SPINDLE TORQUE FOR	TURNING	Nm	70	00	
	C-AXIS CONTOURING TORGUE		Nm	70	00	
	C-AXIS BRAKING TORGUE		Nm	2,7	'88	
	C-AXIS MINIMUM INDEXING IN	NCREMENT	deg.	0.0	001	

4. MILLING SPINDLE

	ITEM		UNIT	SPECIF	ICATION	SELECTION	
	ITEM		UNIT	PUMA SMX2600S	PUMA SMX3100S	SELECTION	
MILLING SPINDLE	DRIVE MECHANISM		-	BUILT-IN SPII	NDLE MOTOR	DEFAULT	
(BUILT-IN MOTOR)	SPINDLE TAPER		-	CAPT	TO C6	STD. SELECTIVE	
			-	HSK	-A63	OPT.	
	SPINDLE BEARING DIAMETER	(FRONT)	mm	7	0		
	MOTOR POWER (15min/30min/Cont.)			26/18.5/15			
	SPINDLE SPEED			12,	000		
	FULL POWER RANGE	LOW WINDING	r/min	1,420~6,000]	
		HIGH WINDING	r/min	6,000~	12,000		
	GEAR RATIO			1:1		DEFAULT	
	MAX. SPINDLE TORQUE		N.m	124			
	MILLING SPINDLE CURVIC CO	UPLING INDEXING ANGLE ⁽¹⁾	deg.	15			
	B-AXIS INDEXING TIME		sec	:	2		
	B-AXIS MINIMUM INDEXING INCREMENT		deg.	0.00	001		
	B-AXIS INDEXING ANGLE		deg.	Randor	n angle		

⁽¹⁾ MILLING SPINDLE ORIENTATION OF 12 POSITION TO USE MULTI-INSERT TURNING TOOL WITH 2,3 AND 4 INSERTS.

5. AUTOMATIC TOOL CHANGER (ATC)

	ITCM		LINUT	SPECIFICATION		CEL ECTION
	ITEM		UNIT	PUMA SMX2600S	PUMA SMX3100S	SELECTION
MAGAZINE & ATC	DRIVE MECHANISM	MAGAZINE	-	TOR + CHAIN		DEFAULT
		ATC	-	SERVO MO	TOR + CAM	
	TOOL STORAGE CAPACITY		EA	4	.0	STD. SELECTIVE
			EA	8	80	OPT.
	MAX. TOOL DIAMETER	CONTINUOUS	mm	9	00	
		WITHOUT ADJACENT TOOLS	mm	1;	30	
	MAX. TOOL LENGTH (FROM GAU	IGE LINE)	mm	4:	50	
	MAX. TOOL MASS		kg	1	2	
	MAX TOOL MOMENT		N∙m	9	.8	DEFAULT
	TOOL SELECT TYPE		-	FIXED A	DDRESS	
	TOOL CHANGE TIME	TOOL TO TOOL	sec	1	.8	
		CHIP TO CHIP	sec	1	8	
	TOOL CHANGE ARM			SWING	G ARM	
	ATC GRAPHIC TOUCH PANEL	3.5 INCH	SET	1		DEFAULT
		7.5 INCH	SET	1		OPT. SELECTIVE

6. AXES SYSTEM

17		LINUT	SPECIFICATION		SELECTION
"	EM	UNIT	PUMA SMX2600S	PUMA SMX3100S	SELECTION
RAPID TRAVERSE RATE	X1-AXIS	m/min	4	8	
	Z1-AXIS	m/min	4	.8	
	Y-AXIS	m/min	3	6	
	A-AXIS	m/min	3	80	
	B-AXIS	r/min	4	.0	
	C1,2-AXIS	r/min	200		
CONTINUOUS THRUST FORCE	X1-AXIS	N	12,	561	DEFAULT
	Z1-AXIS	N	11,9	946	DEFAULT
	Y-AXIS	N	9,1	95	
	A-AXIS	N	9,1	95	
INTERMITTENT THRUST FORCE	X1-AXIS	N	18,8	842	
	Z1-AXIS	N	17,9	918	
	Y-AXIS	N	13,7	793	
	A-AXIS	N	13,7	793	

6. AXES SYSTEM (CONTINUED)

	ITE	-14	UNIT	SPECIF	ICATION	0.5	LECTION
	115	:IVI	UNIT	PUMA SMX2600S	PUMA SMX3100S	36	ELECTION
BALLSCREW (DIAMETER X LEAD)	X1-AXIS	mm	40 2	X 16		
		Z1-AXIS	mm	50 2	X 16		
		Y-AXIS	mm	40 2	X 12		
		A-AXIS	mm	40 2	X 12		
SERVO MOTOR	POWER (MODEL)	X1-AXIS	kW	5	.5		EFAULT
		Z1-AXIS	kW	6	.0		
		Y-AXIS	kW	4.0			
		A-AXIS	kW	4.0			
		B-AXIS	kW	2.	2.5		
BALL SCREW C	COOLING	X1-AXIS	-	SH.	AFT	D	EFAULT
		Z1-AXIS	-	SH	AFT	OPT.	-SELECTIVE
		Y-AXIS	-	SH.	AFT	OPT.	SELECTIVE
FEEDBACK	ENCODER	ALL AXES	-	ABSC	LUTE	D	EFAULT
SYSTEM	LINEAR SCALE	X1-AXIS	-	(HEIDE	NHAIN)	OPT.	
		Z1-AXIS	-	(HEIDE	NHAIN)	OPT.	SELECTIVE
		Y-AXIS	-	(HEIDE	NHAIN)	OPT.	
GUIDE WAY SP	AN	BED(Z1-AXIS)	mm	6	03		
		SADDLE(X1-AXIS)	mm	4	05]	
		SADDLE(Y-AXIS)	mm	7:	25] [EFAULT
		BED(RIGHT SPINDLE)	mm	3	90		

7. OIL HYDRAULIC SYSTEM

	ITEM	UNIT	SPECIFIC	CATION	SELECTION
	I I EIVI	UNIT	PUMA SMX2600S	PUMA SMX3100S	SELECTION
HYDRAULIC	TANK CAPACITY	L	32		
	PUMP TYPE	-	VANE I	PUMP	
	MOTOR CAPACITY	kW	2.2	2	
	OPERATING PRESSURE	Мра	6		DEFAULT
	COOLING SYSTEM	-	RADIATO	R + FAN	
	FLOW RATE	L/min	28 / 24 (60	0 / 50Hz)	
	VISCOSITY GRADE OF OIL	-	ISO V	ISO VG32	
LUBRICATION	TANK CAPACITY	L	4.3		
	PUMP TYPE	-	Gear Pump		
	PUMP MOTOR POWER	W	120	O	DEFAULT
	DISCHARGE PRESSURE	Мра	1.6±	0.1	
	DISCHARGE VOLUME	L/min	0.12 / 0.1 (60 / 50Hz)		
	VISCOSITY GRADE OF OIL	-	ISO VG68		
	DISTRIBUTOR TYPE	-	METE	RING	
OIL COOLER (1)	TANK CAPACITY	L	30		
	PUMP MOTOR POWER	kW	0.4 +	0.4	
	OPERATING PRESSURE	Мра	0.3	3	
	FLOW RATE	L/min	28 / 24 (60	0 / 50Hz)	DEFAULT
	CAPACITY	W	3,200 / 2,800 (60 / 50Hz)		
	VISCOSITY GRADE OF OIL	-	ISO VG10		
	QUANTITY OF PUMP	EA	2		
	COOLING FLOW DETECTOR ⁽¹⁾ OIL COOLER	SET	1		OPT. SELECTIV

(1) OIL COOLER IS USED FOR BUILT-IN MOTOR SPINDLE.

8. COOLANT SYSTEM

	ITEM		UNIT	SPECIF	ICATION	SELECTION
	11 [14]		ONIT	PUMA SMX2600S	PUMA SMX3100S	SELECTION
COOLANT TANK	RIGHT DISPOSAL	TANK CAPACITY	L	56	60	DEFAULT
		COOLANT OIL	TYPE	WELL-C	CUT B 30	DEI AGEI
COOLANT PUMP	PUMP 1 (10 BAR) ⁽¹⁾⁽²⁾	PUMP MOTOR POWER	kW	2	.2	STD.
FOR MILLLING		FILTRATION	Mesh	25 (BAG	FILTER)	
SPINDLE TTC		MAX. PRESSURE	Мра	1	.0	
		MAX. FLOW RATE	L/min	3	0	
	PUMP 2 (20 BAR) ⁽¹⁾⁽²⁾	PUMP MOTOR POWER	kW	1	.5	OPT.
		FILTRATION	μm	20 (ELEMENT-TUR	RBULANCE FILTER)	
		MAX. PRESSURE	Мра		2	
		MAX. FLOW RATE	L/min	28.8 / 24 (60 / 50 Hz)	SELECTIVE
	PUMP 3 (70 BAR) ⁽¹⁾⁽²⁾	PUMP MOTOR POWER	kW	2	2	OPT.
	FILTRATION μm 20 (ELEMENT-TURBULANCE FILTER		RBULANCE FILTER)			
	MAX. PRESSURE Mpa 7		7			
		MAX. FLOW RATE	L/min	18 / 15 (6	60 / 50 Hz)	
	PUMP 4 (70 BAR) ⁽¹⁾⁽²⁾	PUMP MOTOR POWER	kW	7	.5	OPT.
		FILTRATION	μm	10 (PAPE	R FILTER)	
		MAX. PRESSURE	MPa	7 (60 /	50 Hz)	
		MAX. FLOW RATE	L/min	2	20	
COOLANT PUMP	PUMP (4.5 BAR) ⁽¹⁾	PUMP MOTOR POWER	kW	0.	.9	
FOR FLUSHING		FILTRATION	Mesh	20 (TANK SCI	REEN FILTER)	DEFAULT
		MAX. PRESSURE	Мра	0.45 / 0.3 ((60 / 50 Hz)	DEFAULT
		MAX. FLOW RATE	L/min	3	0	
COOLANT PUMP	PUMP (4.5 BAR) ⁽¹⁾	PUMP MOTOR POWER	kW	0.	.9	OPT. SELECTIVE
FOR OPTIONS (3)		FILTRATION	Mesh	20 (TANK SCI	REEN FILTER)	
		MAX. PRESSURE	Мра	0.45 / 0.3 ((60 / 50 Hz)	
		MAX. FLOW RATE	L/min	3	0	
COOLANT OPTION	COOLANT CHILLER*		SET	,	1	OPT. SELECTIVE
	OIL SKIMMER		SET	,	1	OPT. SELECTIVE
	COOLANT PRESSURE SWITCH		SET	,	1	OPT. SELECTIVE
	COOLANT LEVEL SWITCH		SET	,	1	OPT. SELECTIVE

⁽¹⁾ MEASURED AT PUMP OUTLET WITH 60Hz POWER.

⁽²⁾ MAX PRESSURE IS MEASURED USING TTC TOOL WITH 2mm HOLE

⁽³⁾ THE COOLANT PUMP IS USED FOR OPTIONAL FEATURES SUCH AS TSC OF BOTH SPINDLE, COOLANT BLOWER.

9. WORK HOLDING DEVICE

	ITEM			SPECIF	ICATION	SELECTION	
	ITEM		UNIT	PUMA SMX2600S	PUMA SMX3100S	- SE	ELECTION
HYDRAULIC	STANDARD CHUCKING	CHUCK SPEC.(STROKE)	- (mm)	MH-210 (19)	MH-212 (23)	STD.	
CHUCK FOR		CYLINDER SPEC.(STROKE)	- (mm)	SH-19082 (25)	SH-21010 (35)		
LEFT SPINDLE	OPTION CHUCKING WITH	CHUCK SPEC.(STROKE)	- (mm)	MH-212 (23)	HCH15 (23)	OPT.	
	BIGGER CHUCK	CYLINDER SPEC.(STROKE)	- (mm)	SH-19082 (25)	SH-21010 (35)		SELECTIVE
	OPTION CHUCKING WITHOUT	CHUCK SPEC.(STROKE)	- (mm)	-	-	OPT.	
	CHUCK	CYLINDER SPEC.(STROKE)	- (mm)	SH-19082 (25)	SH-21010 (35)		
	SPECIAL CHUCKING*		-	PLEASE CON	TACT DOOSAN	OPT.	
	DUAL PRESSURE CHUCKING		-		•	OPT.	SELECTIVE
	CHUCK CLAMP CONFIRMATION		-		•	OPT.	SELECTIVE
	PRESSURE SWITCH FOR CHUCK	ING PRESSURE CHECK	SET	,	1	OPT.	SELECTIVE
	HARDENED & GROUND HARD JAV	WS	SET		•	OPT.	SELECTIVE
	SOFT JAW ⁽¹⁾		SET	1		STD.	DEFAULT
HYDRAULIC	STANDARD CHUCKING	CHUCK SPEC.(STROKE)	- (mm)	MH-2	10 (19)	STD.	
CHUCK FOR		CYLINDER SPEC.(STROKE)	- (mm)	SH-190	082 (25)		
RIGHT SPINDLE	OPTION CHUCKING WITH	CHUCK SPEC.(STROKE)	- (mm)	MH-2	MH-212 (23)		
	BIGGER CHUCK	CYLINDER SPEC.(STROKE)	- (mm)	SH-190	082 (25)		SELECTIVE
	OPTION CHUCKING WITHOUT	CHUCK SPEC.(STROKE)	- (mm)		-	OPT.	
	CHUCK	CYLINDER SPEC.(STROKE)	- (mm)	SH-190	082 (25)		
	SPECIAL CHUCKING	SPECIAL CHUCK	-	PLEASE CON	TACT DOOSAN	OPT.	
	DUAL PRESSURE CHUCKING		-		•	OPT.	SELECTIVE
	CHUCK CLAMP CONFIRMATION		-		•	OPT.	SELECTIVE
	PRESSURE SWITCH FOR CHUCK	ING PRESSURE CHECK	SET	,	1	OPT.	SELECTIVE
	HARDENED & GROUND HARD JAV	ws	SET		•	OPT.	SELECTIVE
	SOFT JAW ⁽¹⁾		SET	,	1	STD.	DEFAULT
STEADY REST	SERVO DRIVEN STEADY REST	SLU-3.1 (Ø20 ~ Ø165)	SET		•	OPT.	
	(Z-MOVEMENT)	SLU-3.2 (Ø50 ~ Ø200)	SET		•	OPT.	DELECTIVE
		SLU-4 (Ø35 ~ Ø245)	SET		•	OPT.	SELECTIVE
		SLU-5 (Ø50 ~ Ø310)	SET		•	OPT.	

⁽¹⁾ EACH CHUCK COMES WITH 1SET OF SOFT JAWS AS STANDARD. DEPENDS ON SELECTED CHUCK TYPE, ITS SUPPLYING CAN BE DIFFERENT.

(2) CAN SELECT THE STEADY REST PREPARATION.

10. CHIP DISPOSAL

	ITCA		LINUT	SPECIF	ICATION	0.5	LECTION
	ITEM		UNIT	PUMA SMX2600S	PUMA SMX3100S	35	LECTION
CHIP CONVEYOR	RIGHT DISPOSAL	HINGED BELT TYPE FOR STEEL	SET	1		OPT.	
		MAGNETIC SCRAPER TYPE FOR CAST IRON	SET	1		ОРТ.	SELECTIVE
		SPECIAL CHIP CONVEYOR*	SET	ORDEF	R MADE	OPT.	
CHIP BUCKET	CAPACITY		L	30	00	OPT.	SELECTIVE
AIR BLOWER	LEFT SPINDLE CHUCK JAW CLEANING		SET	1		DEFAULT	
	RIGHT SPINDLE CHUCK JAW CLEANING		SET	1		DELAGET	
CHUCK COOLANT	LEFT SPINDLE CHUCK JAV	/ CLEANING	SET	1		OPT.	SELECTIVE
	RIGHT SPINDLE CHUCK JA	W CLEANING	SET	1		OPT.	SELECTIVE
T-S-A	FOR LEFT SPINDLE		SET	1		OPT.	SELECTIVE
	FOR RIGHT SPINDLE		SET	1		OPT.	SELECTIVE
T-S-C	FOR LEFT SPINDLE		SET	1		OPT.	SELECTIVE
	FOR RIGHT SPINDLE		SET	1		OPT.	SELECTIVE
COOLANT GUN			SET	1		OPT. SELECTIVI	
MIST	INTERFACE (DUCT ONLY)		SET	1 (Φ150mm)		OPT.	SELECTIVE
COLLECTOR	INTEGRATED MIST COLLEC	CTOR	SET	1 (Φ15	50mm)	OPT.	SELECTIVE

11. OPTIONAL EQUIPMENTS

	ITEM		UNIT	SPECIF	ICATION	SELECTION		
	IIEIVI		UNII	PUMA SMX2600S	PUMA SMX3100S	35	LECTION	
MEASUREMENT	MANUAL TOOL SETTER (LEFT, I	RENISHAW)	SET	N	/A	OPT.	SELECTIVE	
	AUTO TOOL SETTER (LEFT, REI	NISHAW)	SET	1		OPT.	SELECTIVE	
	IN-MACHINE WORKPIECE MEAS	SURING SYSTEM*	-	RM	P60	OPT.	SELECTIVE	
PARTS UNLOADER	PARTS UNLOADER	FOR RIGHT SPINDLE WITH PARTS CONVEYOR	SET(mm)	1 (Ф76 X	200, 5Kg)	OPT.	SELECTIVE	
	WORKPIECE EJECTOR	FOR RIGHT SPINDLE	SET	1	1		SELECTIVE	
		T-S-C FOR RIGHT SPINDLE	SET	1		OPT.	SELECTIVE	
		T-S-A(AIR) FOR RIGHT SPINDLE	SET	1	1		SELECTIVE	
AUTOMATIC	GANTRY LOADER*	A1 TYPE	SET(mm)	N	/A	OPT.		
WORK		A2 TYPE	SET(mm)	N	/A	OPT.	N/A	
LOADING SYSTEM		A3 TYPE	SET(mm)	N	/A	OPT.		
	BAR PULLER		SET	N	/A	OPT.	N/A	
	BAR FEEDER INTERFACE		SET	1		OPT.	SELECTIVE	
	ROBOT INTERFACE		SET	1		OPT.	SELECTIVE	
OTHERS	AIR GUN		SET	1		OPT.	SELECTIVE	
	AIR LIMIT		SET	1		OPT.	SELECTIVE	
	AUTOMATIC FRONT DOOR WITH	H SAFETY DEVICE	SET	1		OPT.	SELECTIVE	
	AUTOMATIC POWER OFF		SET	1	I	OPT.	SELECTIVE	
	ROTARY TYPE WINDOW WIPER		SET	1		OPT.	SELECTIVE	
	SCREEN DISPLAY UNIT SIZE 15	INCH	SET	1		D	EFAULT	
	ADDITIONAL PORTABLE MPG		SET	1		OPT.	SELECTIVE	
	TOOL MONITORING SYSTEM		SET	1		D	EFAULT	
	ALARM GUIDANCE		SET	1		D	DEFAULT	
	WORKPIECE CUT OFF CONFIRMATION(ELECTRICAL TYPE)		SET	1		D	EFAULT	
	THERMAL COMPENSATION		SET	1		D	EFAULT	

12. STANDARD ACCESSORIES

ITEM	UNIT	SPECIFICATION		SELECTION
	UNIT	PUMA SMX2600S	PUMA SMX3100S	SELECTION
FOOT SWITCH	-	SINGLE		DEFAULT
FRONT GUARD DOOR INTER LOCK	SET	1		
FULL ENCLOSURE CHIP AND COOLANT SHIELD	SET	1		
HAND TOOL KIT (INCLUDING SMALL TOOL FOR OPERATIONS)	SET	1		
LEVELING JACK SCREW & PLATES	SET	1		
FOUNDATION BOLT FOR ANCHORING	SET	1		
MANUALS	SET	1 1 2		
SAFETY PRECAUTION NAME PLATES	SET			
WORK LIGHT	SET			

< NOTE >

- 1. DESIGNS AND SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.
- 2. ALL VALUES SPECIFIED IN THE DOCUMENT ARE VALID FOR STANDARD ELECTRIC POWER CONDITIONS. (60Hz, 220V)
- 3. IF YOU HAVE ANY QUESTION REGARDING CONTENTS OR SELECT * MARKED CONTENT, PLEASE CONTACT DOOSAN.MACHINE TOOLS
- 4. MACHINE LAY-OUT AND WEIGHT CAN BE CHANGED DEPENDING ON OPTIONS AND PERIPHERAL EQUIPMENT.
- 5. PLEASE REFER TO LAY-OUT AND FOUNDATION DRAWING REGARDING INSTALLATION/ELECTRIC DEVICE.
- 6. PRESSURE AND FLOW RATE VALUES OF COOLANT AND HYDRAULIC PUMP ARE GIVEN AT PUMP OUTLET.
- 7. THE FLOW RATE AND THE PRESSURE OF COOLANT SPECIFIED IN THE DOCUMENT ARE VALID FOR WATER SOLUBLE COOLANT.
- 8. REFER TO THE SEPARATED SPEC. SHEETS TO REVIEW SPECIFICATION, FUNCTION AND OPTION OF CNC CONTROLLER.